

CLAIMS

1. A reinforcement structure for use with a filter cartridge, comprising an elongated backbone have a bottom surface and a top surface , at least one hook boss, and a plurality of non-hook bosses extending from the bottom surface.
2. A reinforcement structure according to claim 1, wherein a plurality of hook bosses extends from the bottom surface of said elongated backbone and wherein said plurality of hook bosses includes first and second hook bosses each being located at or near a respective end of the elongated backbone.
3. A reinforcement structure according to claim 1, wherein a plurality of hook bosses extends from the bottom surface of said elongated backbone and wherein said plurality of hook bosses includes one or more intermediate hook bosses.
4. A reinforcement structure according to claim 3, wherein said one or more intermediate hook bosses are positioned inwardly of the respective ends of the elongated backbone.
5. A reinforcement structure according to claim 4 wherein said one or more intermediate hook bosses are positioned at or near the midpoint of the elongated backbone.
6. A reinforcement structure according to claim 1, wherein said plurality of non-hook bosses are spaced along the elongated backbone.
7. A reinforcement structure according to claim 1, wherein said plurality of non-hook bosses are dimensioned to be slightly narrower than the space defined between cells of a filter cartridge to which the reinforcement structure is to be attached.
8. A reinforcement structure according to claim 1, wherein the elongated backbone and hook/non-hook bosses are fabricated from a plastic material.
9. A reinforcement structure according to claim 8, wherein said fabrication is by injection molding techniques.
10. A reinforcement structure according to claim 8 wherein said plastic material is a member selected from the group consisting of polypropylene, polyethylene, nylon and polyvinylidene fluoride.
11. A filter cartridge assembly, comprising a filter cartridge and a plurality of reinforcement structures as defined by claim 1 detachably secured thereto.
12. A filter cartridge assembly comprising a filter cartridge and a plurality of reinforcement structures as defined by claim 2.

13. A filter cartridge assembly comprising a filter cartridge and a plurality of reinforcement structures as defined by claim 3.

14. A filter cartridge assembly comprising a filter cartridge and a plurality of reinforcement structures as defined by claim 5.

15. A filter cartridge assembly comprising a filter cartridge and a plurality of reinforcement structures as defined by claim 6.

16. A filter cartridge assembly comprising a filter cartridge and a plurality of reinforcement structures as defined by claim 7.

17. A filter cartridge assembly according to claim 11, wherein said plurality of reinforcement structures are detachably secured to the filter cartridge in a circumferentially spaced manner.

18. A filter cartridge assembly according to claim 11, wherein the circumferential spacing is from about 30° to about 120°.

19. A filter cartridge assembly according to claim 11, wherein the reinforcement structures impart tensile and compressive forces in opposition to potential distortive forces encountered by the filter cartridge.

20. A filter cartridge assembly according to claim 11, wherein the filter cartridge is a multi-cell filter cartridge.

21. A method for preventing distortion of a multi-cell filter cartridge under arduous operating conditions which comprises providing a filter cartridge comprised of a plurality of cells vertically stacked one upon the other with a reinforcing structure according to claim 1 detachably secured vertically along the outer circumference of said cartridge so as to minimize or prevent distortion of the cells when the filter cartridge is subjected to arduous operating conditions.